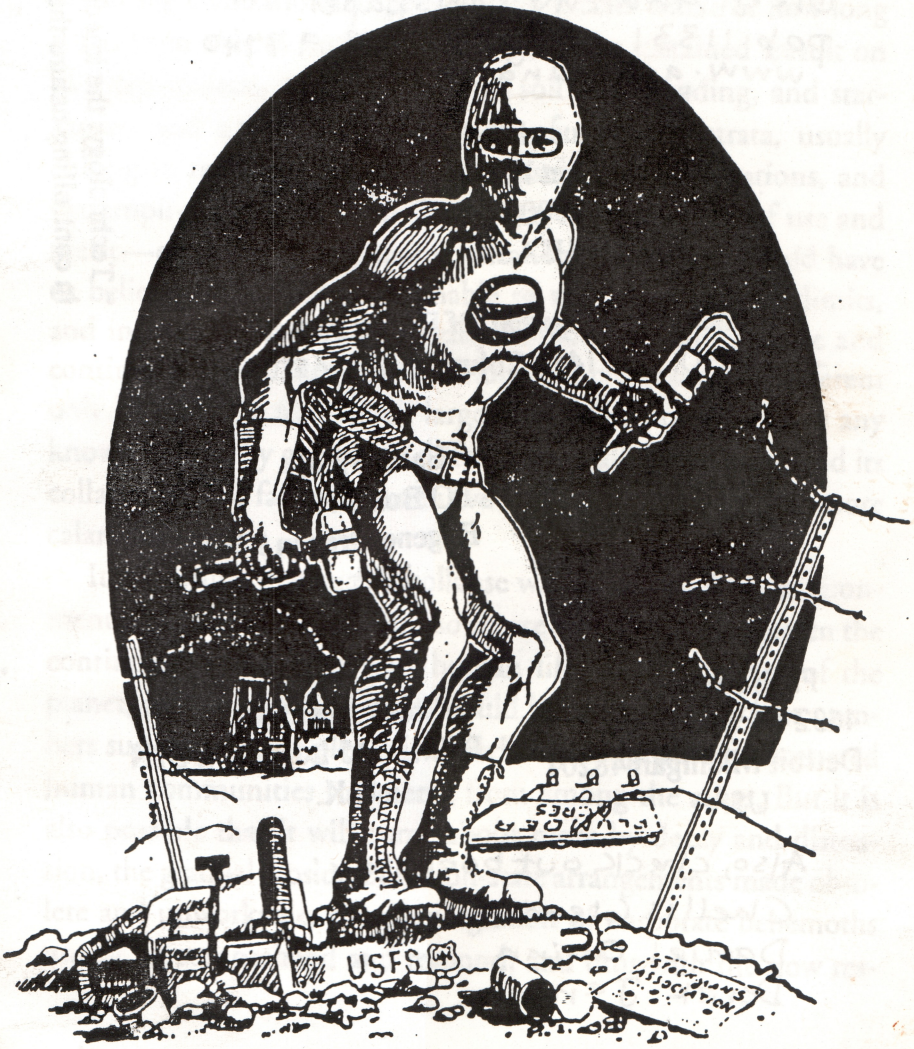
The Neo-Luddites and Lessons from the Luddites

Essays by Kirkpatrick Sale



These following essays were taken out of Kirkpatrick Sale's best & most recent book "Rebels Against the Future: the Luddites & their war on the Industrial Revolution".

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The Neo-Luddites

IN MARCH 1990, a New Mexico psychologist named Chellis Glendinning published "Notes toward a Neo-Luddite manifesto," an attempt to give legitimacy to those who in one way or another are troubled by, and resistant to, the technology of the second Industrial Revolution, and to prepare the ground for a statement that would articulate their critique and goals.

"Neo-Luddites have the courage to gaze at the full catastrophe of our century," she began, which is that "the technologies created and disseminated by modern Western societies are out of control and desecrating the fragile fabric of life on Earth." And to underscore the link of present with past, she added, "Like the early Luddites, we too are a desperate people seeking to protect the livelihoods, communities, and families we love, which lie on the verge of destruction."

Arguing that effective resistance to this destruction "requires not just regulating or eliminating individual items like pesticides or nuclear weapons" but "new ways of thinking" and "the creation of a new worldview," she set out three basic principles of neo-Luddism:

1. Opposition to technologies "that emanate from a worldview that sees rationality as the key to human potential, material acquisition as the key to human fulfillment, and technological development as the key to social progress."

2. Recognition that, since "all technologies are political, the technologies created by mass technological society, far from being "neutral tools that can be used for good or evil," inevitably are "those that serve the perpetuation" of that society and its goals of efficiency, production, marketing, and profits.

3. Establishment of a critique of technology by "fully examining its sociological context, economic ramifications, and political meanings . . . from the perspective not only of human use" but of its impact "on other living beings, natural systems, and the environment."

She ended with a "program for the future" that envisioned "the dismantling" of nuclear, chemical, biogenetic, electromagnetic, television, and computer technologies; the creation of new technologies, by those who "use them and are affected by them," that promote "political freedom, economic justice, and ecological balance," community-based, decentralized, organic, and cooperative; and the achievement of a "life-enhancing worldview" that would let "Western technological societies restructure their mechanistic projections and foster the creation of machines, techniques, and social organizations that respect both human dignity and nature's wholeness."

"We have nothing to lose except a way of living that leads to the destruction of all life," she concluded. "We have a world to gain."

Glendinning's remarkable document was inspired by her experiences in writing a book she had finished only a few months before called *When Technology Wounds*, the result of an in-depth study of what she called "technology survivors," people who had suffered injury or illness in recent years after being exposed to various toxic technologies in their homes and workplaces. All had succumbed to technological assault inflicted under the guise of some advance of progress or other—nuclear radiation, pesticides, asbestos, birth-control devices, drugs—and they had all begun to question not only the processes that maimed them but the world that forced those processes on them with such unfounded prom-

ice and such blithe indifference. These people know, "in the most intimate and compelling way," Glendinning found,

> what dangerous technologies can do to life. They know the disruption, loss, and uncertainty. They feel the breach of trust, and these experiences can catalyze them to question accepted beliefs about technological progress. . . . They see them as symptoms of a whole system gone awry.

This is what made Glendinning think of the original Luddites, people who similarly suffered from technology, saw themselves as the victims in a "system gone awry," and were engaged in "an ideological struggle" against an onrush of progress that was a threat to "longlived social relations." These modern-day survivors were, as she saw it, legitimately in the Luddite line, part of a new Luddistic movement.

The idea that there might be such a movement right here in the Land of Technophilia is not as far-fetched as it might seem at first, for the second Industrial Revolution has always had its critics and skeptics, always had an underside of anxiety and distrust. Even in the societies that have succumbed to the new technologies most fervently—or perhaps especially there—a persistent feeling of disquiet, edging toward fear, has always existed about their immense power and sweep, their capacity for accident and misuse.

In part this anxiety goes back to the 1950s and the reaction, at the fringes of the culture at least, to science's awesome and awful achievements at Hiroshima and in the German death camps. Postwar science fiction was dominated by notions of technology gone awry, either out of control or in the hands of evil forces, and postwar films, particularly of the horror genre, by stories of irradiated monsters or invasions by outer-space species even more technologically developed than earthlings. The apprehension was fed by revelations of environmental dangers in the 1960s and '70s—DDT and other everyday chemicals, oil spills, cigarettes, PCBs, toxic wastes, radiation leaks, and so on—which called the

wisdom and the truth of scientists, experts, and official government sources into question, producing a partial dissociation from the ruling technocracy for many. At the same time a considerable coterie of disenchanted intellectuals on both sides of the Atlantic produced the analyses that served to challenge the technocratic mainstream: Lewis Mumford beyond all others, particularly with his masterful *Myth of the Machine (Technics and Human Development,* 1967, and *The Pentagon of Power,* 1970), Paul Goodman, Jacques Ellul, E. F. Schumacher, W. H. Ferry, George Parkin Grant, Rachel Carson, Ivan Illich, Herbert Marcuse, Doris Lessing, Robert Jungk, Henry Geiger, and some few others.

When the 1980s brought the two most disastrous failures of modern technology to date, the 1984 Bhopal plant explosion in India and the 1986 Chernobyl nuclear plant disaster in Ukraine, followed by revelations of global warming and destruction of the ozone layer, both by technological by-products that had once been touted as harmless, the sphere of disquiet and apprehension certainly enlarged, global now in scope and touching all levels of society. Again this was reflected in several elements of popular culture, in the novels of Kurt Vonnegut, Thomas Pynchon, Farley Mowat, and Edward Abbey, and particularly in movies like *ET, War Games, Gremlins,* and above all *Return of the Jedi,* the climax of the *Star Wars* series. (In which, be it remembered, the triumph of the natural, not to say the primitive, over the machine is manifest in the Ewoks' use of sticks and stones to defeat the supertechnocratic forces of the Evil Empire.) And again there was the learned support of a new wave of technology critics, now from an even wider range of disciplines and with even greater impact, academics like Langdon Winner, Stanley Diamond, and David Noble, ecologists like Edward Goldsmith, David Ehrenfeld, and Arne Naess, activists like Dave Foreman and Jeremy Rifkin, and Wendell Berry, Jerry Mander, Carolyn Merchant, John Zerzan, Theodore Roszak, Susan Griffin, Gary Snyder, Paul Brodeur, Stephanie Mills, Thomas Berry, Bill McKibben, Paul

Shepard, and a surprising number of others, trenchant and occasionally widely received commentators.

Within this context, then, it is not surprising that we should be able to identify something that, if perhaps not always so purposeful as a movement, gives expression in many ways and with growing force to a range of ideas and sentiments that are unquestionably Luddistic. If this neo-Luddism is apt to demonstrate its resistance to technology and the forces of modernism behind it less by actual machine breaking than by opposing the corporation making the machines, nevertheless it is directly linked to the spirit of King Ludd and to the underlying motives and causes of his original followers.

This contemporary neo-Luddism, strongest and most self-conscious in the United States but indeed global in scope, can be seen to span a considerable spectrum—ranging from narrow single-issue concerns to broad philosophical analyses, from aversion to resistance to sabotage, with much diversity in between—that is pertinent to examine at some length.

It can start with those of Glendinning's "survivors" who have organized to send out warnings about technological assaults (almost always denied by the assaulters, usually for decades) and have successfully formed a variety of networks to trade information, plan strategies, raise funds, hire experts, and fight legal battles. There are probably three dozen such groups on a national scale in the United States alone, among them the Asbestos Victims of America, Aspartame Victims and Their Friends, Citizens Against Pesticide Misuse, Dalkon Shield Information Network, DES Action National, National Association of Atomic Veterans, National Committee for Victims of Human Research, National Toxics Campaign, and the VDT Coalition. Their members are people who in the course of healing their own wounds have come to a Luddistic sensibility that the problem lies not only with the particular industrial "advance" inflicted on them but with the

wider addiction of society to what one DES mother calls "technological hubris." Or, as one man who got lung cancer after exposure to asbestos on the job put it to Glendinning, "What I learned is that our technology is killing us."

Next along the spectrum are members of those groups that have grown up to resist one computer age technology or other not as victims but as concerned and fearful citizens—as for example the campaigns against toxic wastes, biotechnology, incineration, pesticides, clear-cut logging, automobiles, animal testing, and industrial chemicals. The most successful here have been the antinuclear activists who have been opposing nuclear weapons and nuclear power for decades, and more recently nuclear wastes. Their tactics have included everything from mass marches and demonstrations to scientific papers and legal suits, and some have had a distinctly Luddite air: the attack by a woman in 1987 against a missile-system computer at the Vandenberg Air Force Base in California with a crowbar, bolt cutters, and a hammer, for example, and the fifty "Plowshare" actions since 1980 in which pacifists have used hammers and paint to attack planes, missiles, submarines, and weapons at various military bases. The reasons for the comparative success of the nuclear-power part of this movement, particularly in the United States, where no new nuclear plants have even been commissioned since 1978, are especially instructive: for one thing, it managed always to show the connections between nuclear reactors and the larger industrial culture, its militarism (nuclear weapons), its pollution (nuclear wastes), and its authoritarianism (planning power stations without public participation); for another, it could always point to the "worst-case scenario" of the obliteration of two Japaneses cities by nuclear explosions, whereas most other technologies are introduced in clouds of unequivocal acclaim without their dangers or difficulties ever being so fully exposed. Thus it has been one of the few movements that can actually claim to have retarded, if not altogether halted, a major technology favored by the powers that be.

Another kind of opposition has been directed not against whole technologies as such but against specific projects on the general high-tech menu. In the United States, for example, active resistance, in some cases with explicit Luddistic overtones, has been directed against the supersonic transport plane, synthetic fuels, the antiballistic missile system, the supercollider, the Strategic Defense Initiative, food irradiation, bovine growth hormone, and any number of high-tech dam projects. Even with a Congress willing to buy into almost any technological boondoggle, and corporate and big-science establishments promising moons, victories have been won in a remarkable number of instances, most notably against the SST and supercollider projects and dams in Grand Canyon and James Bay. The surprisingly vigorous opposition to the North American Free Trade Agreement as it was being extended to Mexico in 1993—shown in some polls to be joined by two thirds of the public—was another project-specific fight, and specifically Luddistic in that so much of it was instigated by a fear over a loss of jobs to a Mexico where not only are wages lower but resistance to new labor-displacing technologies is negligible. In that opposition, accounting for an unusual alliance between Ross Perot conservatives and liberal populists, was also a strong sense that only powerful multinational corporations stood to benefit, a tacit comprehension that in the industrial culture it is the corporation, the technological form created by 19th-century industry, that reaps the rewards.

Something of that same sense animated similar protests in Europe against two specific agreements that were seen as promoting large-scale technocratic, particularly antitraditional and antilocal, interests, destroying regional and communal associations and doing away with jobs and pastimes that have endured for centuries. The first, resistance to the European Union formed in 1992, was expressed in many countries throughout the subcontinent—most vociferously in Scandinavia, Ireland, and Britain—and the Maastricht Treaty certifying that union was passed by very narrow majorities and only after dubious high-pressure

campaigns by corporate and government forces. This was followed by even greater opposition to the General Agreement on Tariffs and Trade, widely viewed as a boon to corporations that could cross borders in a nanosecond and move jobs and products and profits around the world at their whim, leaving workers and communities at their mercy. Here protests broke out into active demonstrations against the Uruguay-round provisions, most vividly in France in 1992 and 1993. French farmers, their existence threatened by agribusiness provisions in GATT that would do away with the subsidies that have kept them small and independent, set up barricades of burning tires and hay bales, or ran their trucks across the road to disrupt traffic, sometimes clashing with police; and they were at the core of the 40,000 farmers from all over Europe and parts of Asia that massed before the European Parliament in Strasbourg in December 1992 to burn an effigy of the U.S. GATT negotiator for agriculture policy. They were naturally derided in press and parliament for being Luddites, antimodern and antiprogress—and in some real sense they are, arguing for other values than those of capitalist enterprise, including rural communities and rural lifeways, just as their English predecessors had—but, confoundingly, this stance met with enough sympathy to win them wide popular support and help them gain some concessions on subsidies in the final agreement.

It is in the non-Western countries, however, where GATT's effects are likely to be most strongly felt—free trade, we must remember, is free only for those who run the trade—and where the greatest protests have been waged in recent years, and it is here that today we most often see a clash of industrial modernity and organic tradition that bears many resemblances to the experience of the original Luddites. Farmers in Korea, India, Ceylon, and Malaysia have marched, demonstrated, and petitioned against GATT provisions that they see as allowing a "genetic invasion" from the West, enabling such American grain-marketing giants as Cargill and W. R. Grace to appropriate indigenous seeds and

species, alter them in some minor way, and then patent and sell the resulting variety back to the farmers, even forcing them to pay royalties. In India the Cargill offices in Bangalore were raided in 1992 and its files set on fire, a Cargill seed factory under construction was burned down in June 1993, and in October 1993 half a million people demonstrated in the state of Karnataka against the GATT provisions, the largest outcry against the effects of free trade—and specifically against the incursion of multinational technologies—anywhere in the world.

Indeed, it has been in the non-Western world that the Luddite spirit has been particularly vigorous in recent years against the industrial world's invasions, very often led by indigenous peoples who are trying to resist not only the machines and projects of industrialism but its culture as well. Peasants have refused to take part in various "development" schemes foisted on them by pliant governments usually at the behest of the World Bank or U.S. State Department, as for example the farmers in Mali in the early 1980s who destroyed dams and dikes being built for a rice-growing program they wanted no part of. Communities have mobilized to stop dam projects that threatened to drown their age-old settlements, sometimes successfully, as in the case of the villagers who protested the Narmada Dam in India in the early 1990s, sometimes less so in many other cases, as with the people of eastern Java who marched against the Nipah irrigation dam that was to flood their homeland, four of whom were killed by Indonesian security forces in 1993. Tribes have organized to fight tree-cutting and road-building schemes that invaded their territories, most famously with the Chipko "tree-hugging" movement in India in the 1970s and '80s, which eventually halted government clear-cutting efforts there; similar protests have also taken place in Malaysia, Australia, Brazil, Costa Rica, Solomon Islands, and Indonesia, among others. And at places all around the Indian subcontinent, in Malaysia and Indonesia, and several ports along the Pacific shore of South America, including Ecuador and Colombia, traditional fishermen have taken actions

against industrial fishing fleets invading their waters and threatening their catch, even ambushing and setting fire to the mechanized trawlers in several instances.

These kinds of protest actions do not necessarily involve the destruction of machinery, though sabotage is not unknown (as in the destruction of a high-tech chemical plant in Thailand in 1986), but the motivating sentiment behind them is exactly Luddistic in its desire to maintain a traditional way of life and livelihood, in the face of an industrial capitalism that intends to draw them into a wage-and-market system. A more exact parallel is found in a story from eastern India (there are probably many such, but few become international news) of a joint Indian-Australian mining project at Piparwar, on the Damodar River. People there have been resisting outside destruction of their cultures for two centuries—what used to be done to them in the name of "civilization" is now done in the name of "development"—but in the late 1980s the Indian government forced many of them off the common lands from which they had wrested a self-sufficient living for generations and began opening up the hillsides for highly mechanized—and highly polluting—coal extraction. The project naturally promised jobs to the locals, an available workforce now that their lands had been confiscated, but in the event only a few of the positions were for unskilled workers and most of the men had to be assigned to other government projects outside the region, forced to leave their families behind. One of the few nonmechanized jobs available was loading coal onto railway cars at a siding, which men would do with large baskets on their heads, but late in 1990 this task too was mechanized. The affected workers and some fifteen thousand local supporters immediately began a ten-day sit-in, stopping all work at the siding, and did not resume work again until January. On January 22, when some of the workers started loading coal with baskets, ignoring the detested machinery, company officials called in the police, who opened fire on the crowd, killing one man and wounding six. Sometime in the next two days the

mechanical loaders were disabled (one would like to think by the great Enoch hammers, though the means are not specified), but they were eventually repaired or replaced and, despite protests at the site for the next two years, the coal loaders, like the croppers, were out of work forever.

This kind of resistance in the non-Western countries has led one writer, Claude Alvares, a Goa-born journalist and farmer, to argue recently that "it is the luddite response of the third world that is the most instructive and indicative of future directions." He believes that it is against "the dual oppression of science and development" that this Luddite opposition will be mounted and that the power behind such a movement comes on the one hand from traditional religious beliefs that reject the "scientific rationality" of the West and on the other from a general antagonism to "further colonization of popular consciousness" at levels both popular and intellectual in all these countries. Indeed, he is impressed enough by such resistance to predict that these forces are powerful enough to succeed in defeating some projects of the Western nations in the short run and that "eventually all may succeed, aided by modern science's own crumbling foundations."

There is no question that an anti-Western sentiment and disenchantment with Western industrial culture has informed many of the rebellious movements in parts of that "third world" in recent decades. In all the Moslem fundamentalist movements, from Morocco to Pakistan, a pronounced anti-Western strain operates as well as a thoroughgoing critique of Western rationalism and science, even if it seldom extends to a rejection of Israeli machine guns or American oil rigs or Japanese transistor radios. And some of the armed uprisings in such places as Somalia, Algeria, Egypt, Nepal, Indonesia, Central America, and the Philippines have stated their opposition to Western industrialism, its specific corporate agents, and the regimes forcing it upon them. A leader of the Zapatista rebellion in Mexico, for example—which began, not coincidentally, on the day that NAFTA became official, January 1, 1994—was explicit in announcing its effort as "against

the whole neo-liberal project in Latin America," by which he meant foreign trade, privatization of state enterprises, agriculture for export rather than local consumption, and free-market capitalism. It may be that such sentiments are only contributary as motive forces in these rebellions, but there seems no doubt that antipathy to the industrial nations' "neo-liberal project" plays a role seldom acknowledged.

But it is not only in the non-Western world that examples from this part of the neo-Luddite spectrum are to be found. In the West, and even in the North American core, protest against industrialism in general and environmental onslaughts in particular has spawned an active resistance that goes by the name of "ecotage."

Starting in the 1970s, environmentalists of several stripes began to sabotage the machinery and products connected with industrial projects that threatened to invade wilderness areas, clear-cut old-growth forests, block free-running rivers, or interfere with settled lives and homes. In the mid-1970s farm families in northern Minnesota, in protest against power lines that represented both health and environmental risks, used bolt cutters to try to topple the electric towers being forced through their area and were defeated only by arrests, beatings, and a daily police presence. A few years later a man in Chicago known only as "the Fox" drew some attention with his environmental sabotage, plugging polluting factory smokestacks and shutting off industrial waste-drain systems without ever being caught.

It was in the 1980s, though, that ecotage was raised to an art, largely through the efforts of Earth First!, a radical environmental organization whose slogan was "No compromise in defense of Mother Earth." Its strategy was to stop environmental intrusions by any means available, legal and otherwise, including slashing tires and disabling engines of earth-moving machines used to cut timber roads, blocking roads to prevent logging trucks from entering wilderness areas, and, most famously, drilling spikes into

trees in wilderness forests to prevent them being logged by chainsaws. The specific purpose of these actions, as outlined in the group's freely available publications (their works were printed, not coincidentally, by Ned Ludd Books and their bookshop carried T-shirts saying "Ned Ludd Lives!"), was "the dismantling of the present industrial system," as one Earth Firster said (shortly before being arrested for trying to topple an electric-power tower), not just to protect nature but to "throw a monkey wrench" into the industrial machine. They have not quite achieved that, although one estimate in 1990 was that they were doing the industrial system between $20 million and $30 million worth of damage a year.

Other environmental groups have also employed forms of ecotage in these years. Some animal-rights groups invaded laboratories where animal experiments were being performed, destroying cages and other equipment and in most cases freeing the animals when they could. Activists protesting the hunting of seals and seal cubs in the Arctic disabled hunters' vehicles and in one instance attacked and disarmed a group of men employed to club seals to death. Perhaps the most outstanding work of this kind has been done by Paul Watson and his Sea Shepherd Conservation Society, which has taken responsibility for incapacitating at least seven vessels engaged in illegally hunting whales, including sinking two of Iceland's four whaling ships in Reykjavik harbor in 1986 and inflicting $2 million worth of damage on the country's whale-processing plant; Sea Shepherd has also used ecotage against ships hunting for dolphins in Japanese waters and loggers attempting to clear-cut Canadian forests.

Ecotage has also surfaced elsewhere in the industrial world, sometimes spontaneously, sometimes in direct imitation of American Earth First! tactics. In Australia protesters challenging the cutting of the Big Scrub forest in New South Wales in the 1980s tied cables between trees in the hopes of disabling earth-moving equipment and camped out in trees to prevent their being cut, actions that eventually forced the government to make the forest

a national park; elsewhere, damage to heavy equipment said to amount to more than $1 million forced some timber contractors to close down. In Europe protests against nuclear power plants have involved ecotage against power lines and transmitters at sites in France, Germany, Portugal, and Scandinavia, and a Basque attack on a nuclear station in Bilbao in the late 1970s was said to have done more than $70 million worth of damage and caused the death of two plant workers. Spontaneous actions by villagers in both Spain and France have led to the sabotage of heavy equipment at several places where locals objected to high-tech plants being built in their areas.

About here on the spectrum one might expect to find those who, directly affected by automation and technical displacement, have turned to forms of sabotage at least as inventive as the environmentalists' in trying to secure their jobs and livelihoods. In fact, though, the economic dislocations of the second Industrial Revolution are taking place with—so far—very little of the indignant fire and fierceness that marked the first.

It is true that in the earliest days of automation in the United States in the late 1950s, some union protests were effective in slowing down the pace of worker displacement or, more often, in providing compensation for those laid off as a result—the 1959 steel union strike of 116 days was largely over this issue, and was largely successful—but there was never any serious attempt to attack the machines themselves. And in the second wave of automation in the early 1970s there were isolated incidents of resistance that occasionally included sabotage, the most famous being at the General Motors assembly plant in Lordstown, Ohio, in 1970, where workers used "creative sabotage" to disrupt parts of the new automated production system for nearly a year, and at *The Washington Post* in October 1975, when pressmen threatened with the loss of their jobs to computer-run "cold type" technology broke into the pressroom and damaged most of the old hot-type presses. But these incidents, though having clear overtones

of Luddism (*Time* called the *Post* pressmen "Washington Luddites"), were not made part of any larger union campaign and were isolated because they failed to build this instance of technological displacement into a larger political issue about the general impact of technology in the workplace.

There was enough workplace resistance to automation by this time, however, to prompt the federal government to devise a national policy. "The impact of technology has been acutely felt by the blue-collar workers," reported a special Health, Education, and Welfare task force in 1973, resulting in markedly low productivity, "as measured by absenteeism, turnover rates, wildcat strikes, sabotage, poor quality products, and a reluctance of workers to commit themselves to their work tasks." The corporate response, HEW advised, should be to give workers thus threatened more "participation" in decision-making and to reassure them about the positive gains in productivity that "will come about mainly through the introduction of new technology."

Remarkably, American workers and their unions bought in to this strategy almost without a peep. One after another, unions threatened with sharp job losses from automation sought merely to ensure that the bulk of the workers who would be fired would have financial cushions and the rest of them "participation." The longshoremen's union, for example, once one of the most powerful, rolled over in the face of automation, negotiated handsome deals by which their workers would get guaranteed annual wages for life whether they were on the job or not, and allowed shipping companies (strongly backed by the Pentagon) to use containerization on the docks and cut the workforce by 90 percent. There was no protest from the ranks, no sabotage by loading hook, and the union proceeded complacently, as one rank-and-filer later observed, to "run interference for the new technology." As it happened, the union very quickly became powerless as the shipping companies expanded their profits and operations, the few remaining men on the job (mostly crane operators) were given less and less responsibility, eventually succumbing to computerization

themselves, and the lively shoreside communities that once surrounded the work sites and hiring halls (cf. *On the Waterfront*) atrophied and died. (A decade later, longshore union leaders eventually acknowledged that the whole thing had been a mistake.) Whether by agreement or coercion, the American workforce quite quickly succumbed to mechanization, with only a brief flurry of strikes in the early 1970s to show its resistance. In 1974, the number of strikes reached its highest level since the 1930s—with automation at the core of many of them—but the number of walkouts and of workers involved plummeted sharply after that, down to less than half the 1974 figure by 1980, and a tenth by 1990. Unions, diminished, were increasingly impotent—in 1994 they represented just 13 percent of the workforce—and the second Industrial Revolution swept on as powerfully as the first.

Of course isolated examples of machine breaking in the workplace can be found, corks bobbing in the ocean. Many plant and office managers will tell, off the record, stories of petty sabotage of new machines that either deskill tasks or permit speedups, but they try to keep news of such actions from spreading around to other workers and only rarely is it publicized. Occasionally a few stories surface, like the one about a computer in the Department of Justice in Washington that was disabled by being saturated with urine, or the farmworkers in California who put sand in the gas tank and incapacitated one of the first automatic tomato-pickers. But nowhere on the record is there any serious concerted machine breaking challenge to the new technologies of the computer revolution, not even from the 6 million people terminated in the doldrum years of 1988–93, most of whom did not find other comparable work.

Somewhat more opposition surfaced in Europe and Australia as computerization took hold there in the 1970s and early 1980s, largely because the union movements were traditionally stronger, but even there the usual weapon was only the strike and the usual outcome defeat. In Australia telecommunications workers went

on strike in 1977 against a new computer system that threatened a number of jobs—"Our members will not move over for a computer," the union boasted—and an officer of one of the unions even summoned up "that spectre, that special understanding of the Luddite Martyrs" now "coming back to haunt the heirs of those who transported them in irons to the shores of Botany Bay." That dispute ended in a brief moratorium on new machines; but the computers were eventually installed with a few job-termination trade-offs. In England, workers at the Lucas Aerospace plant, famous for their attempts in 1980–81 to convert their work from military to civilian products, were also involved in efforts to influence the pace and design of new computerized machines in their shops, but the best they too could get was a moratorium that lasted less than a year. In Denmark, when in 1982 municipal workers in the town of Farum struck to demand veto power over new technology, they gave expression to an idea that was quite widespread then in Scandinavia, although their central union and the government refused to support their action and it eventually collapsed. In the end, the failure of central unions to align themselves against new technologies turned out to be as common, and as devastating, in Europe as it was in the United States.

A study carried out in the 1950s by Clark Kerr and a team of scholars and published in 1960 as *Industrialism and Industrial Man* found that "protest was not such a dominant aspect of industrialization, and it did not have such an effect on the course of society, as we once thought." Everywhere around the world, they found, resistance to industrialism, whether the machine or the factory or the culture, is likely only at the start and only where traditional values are strong and communities intact. But in light of the sophisticated ways that corporations have to control or suppress protest, workers tend to concentrate more on how to accommodate to the industrial order and get a share of its pie. "Experience has tempered visionary aspirations and sobered expectations" among all types of workers, they concluded, "thereby

constraining worker protest." In the succeeding thirty-five years their analysis has held largely true, and there's no reason to think it won't hold for the near future as well.

Last along the spectrum comes a diverse set of social critics, activists and intellectuals for the most part, who accept the neo-Luddite label without demur and are consciously working to adapt certain of the Luddite fundamentals to contemporary politics. A good many of them have been drawn into a loose "neo-Luddite" group first put together in 1993 by the Foundation for Deep Ecology in San Francisco, coordinated by two antitechnology veterans, Jerry Mander, the author of *Four Arguments for the Elimination of Television* and *In the Absence of the Sacred,* a scathing attack on "megatechnology," and Helena Norberg-Hodge, whose work to preserve the Ladakhi culture of the Himalayas has led her to a broad-ranging campaign against the invading Western monoculture there and its technological and economic penetration everywhere.

A roster of some of those in this rough circle suggests the range of contemporary neo-Luddism. John Mohawk is a Seneca activist and lecturer in American Studies at the State University of Buffalo, New York, who was the principal author of the Iroḳwa Confederacy's recent statement setting out Indian culture's defiance of industrial society and its assertion of a biocentric, animistic, organic worldview. Jeremy Rifkin is the president of the Foundation on Economic Trends, a Washington citizens' lobby fighting the spread of biotechnologies and the threat of global warming, and the author of a number of books attacking the foundations of industrial society. Vandana Shiva, who has a doctorate in quantum mechanics, has been an activist in southern Asia for more than twenty years, where she has worked to resist the penetration of Western culture, particularly its science, and its destruction of local agriculture, genetic diversity, and traditional communities. Sigmund Kvaloy, a farmer and writer in Norway, is a critic of industrial society who has been instrumen-

tal in developing the Green movement in Scandinavia and in leading resistance to Norway's participation in the European Community. Charlene Spretnak, an early leader of the U.S. Green movement (and co-author with another neo-Luddite, Fritjof Capra, of an early analysis of Green politics), has been an ecofeminist critic of modernism through teaching and writing. George Sessions, a professor of philosophy at Sierra College, California, is the leading American spokesman for the ideas of deep ecology, which teaches the equality of all species and the need for the human to live in greater harmony, and in far fewer numbers, with the rest of nature. A disparate but distinguished lot indeed, and there may be another several dozen of similar stature and mind.

Now it must be said that what links these diverse people is essentially a philosophical kind of Luddism. Although many have been involved in direct-action protests of one kind or another, they are not known as people who have gone out and broken offending machines, or burned down noisome factories, nor for the most part are their livelihoods immediately threatened by the onrush of high-tech industrialism, however much they realize their societies and environments are. Indeed, that may be what makes them fittingly *neo*-Luddites, as Chellis Glendinning's definition suggests, rather than true replicas of the originals. Charles Cobb, an economist with the Society for a Human Economy ("Economics as if people mattered"), has drawn the distinction this way:

> Neo-Luddites do not propose to overcome subtle forms of enslavement to technology by physically smashing machinery. . . . In contrast to the original Luddites, who focused on the particular effects of particular machines, the Neo-Luddites are concerned about the way in which dependence upon technology changes the character of an entire society. . . . They are asking us to reflect on the entire configuration of modern technology instead of isolated pieces of it.

Of course the original Luddites were feeling the changes in the character of their society as well, and more keenly perhaps

because they knew the old ways so intimately, but they were able to see only two decades of the industrial onslaught rather than two centuries of it and probably had greater faith, at least at the start, in the ability of frame breaking to stop it. The neo-Luddites understand the protean and far-flung nature of the technosphere, its pervasive power shot horizontally and vertically through modern society, in ways that the originals could not have begun to, and that is why their work takes them in so many different directions: Green politics, ecological restoration, anti-GATT organizing, wilderness preservation, alternative technology, cultural survival, food safety, historical research, and much else besides.

That is also why so many of them are willing to use, at least in the near future, the technologies at the heart of the system they oppose, including telephones, faxes, jet planes, and photocopiers; as John Davis says, though he is one of the neo-Luddites and editor of *Wild Earth* quarterly, he "inclines toward the view that technology is inherently evil" but "disseminates this view via E-mail, computer, and laser printer." It is a contradiction and a compromise, however, that sits easily with no one and is justified only in the name of the urgency of the cause and the need to spread its message as wide as possible. For there is another understanding that neo-Luddites generally share: that there is, in Jerry Mander's words, "an *intrinsic* aspect of technologies" that affects what happens regardless of who uses them or with what benign purposes; any technology, any artifact, has certain inherent attributes, its givens, impossible to change or correct, and these, the product of the political context that gives them birth, inevitably determine the ways it is used and the consequences it has. As Mander says, you can't have a "good" nuclear power plant, even if saints are in charge of it, because it will be fragile, dangerous, expensive, large, centralizing, and environmentally noxious by its essential nature—any more than you could have a "good" bomb or a "good" pesticide or a "good" automobile. This also means that in a real sense every use of a technology, particularly such a piece of quintessentially high technology as the computer, no

matter how supposedly benevolent the ends, embeds its "intrinsic aspect" deeper and deeper into the soul of the user however wary or self-conscious, in fact embeds the values and thought processes of the society that makes that technology, even as it makes the user insidiously more and more a part of those values and processes. The neo-Luddite dilemma, then, is that though it may not be possible to avoid all aspects of the industrial world and still function effectively, there is a real question as to how effectively one can ever fight fire with fire.*

Indeed, among the neo-Luddites are some who, in reaction to this dilemma, take a stronger, more purist position. Wendell Berry, the essayist and poet who also runs a small farm in Kentucky, says, "As a farmer, I do almost all of my work with horses. As a writer, I work with a pencil or a pen and a piece of paper—in the daytime, without electric light." Of course the fact that his manuscript is then typed by his wife on an old Royal typewriter—she criticizes as she goes along, and they work together in what he calls "a literary cottage industry"—somewhat diminishes this technological purity, and the typescript is subsequently put through any number of computers in setting, printing, and marketing it. Nonetheless there is a certain logic to Berry's method: he won't use a computer because it represents the system

* About computers, over which much dispute rages, it suffices to say that they have two fundamental, fatal flaws—quite apart from the fact that a great deal of pollution and sweatshop labor is involved in their manufacture, some real risks to health and bodily functions are connected to their operation, considerable deskilling and job displacement result from their corporate use, and increasing surveillance and invasion of privacy attend their proliferation. First, in the hands of the large centralizing corporations and bureaucracies that devised and perfected them in the first place, and in service to the goals of production, profitability, and power, computers are steering the world toward social inequity and disintegration and toward environmental instability and collapse, and doing so with more speed and efficiency with every passing year—regardless of how many people on the Internet believe they are saving the planet. Second, computers interpose and mediate between the human and the natural world more completely than any other technology—they are uniquely capable of reproducing *another* nature through biotechnology and many "virtual" ones—and are the instruments that primarily energize the technosphere that not merely distances this civilization from nature but sets it at war with nature for its daily sustenance. Next to that it is quite insignificant whether some individuals find that the values of a technological society—speed, ease, mass information, mass access, and the like—are served and enhanced by such machines.

he opposes in his writing. "I do not see," he says, "that computers are bringing us one step nearer to anything that does matter to me: peace, economic justice, ecological health, political honesty, family and community stability, good work." It hardly comes as a surprise to hear Berry say, in his soft mountain drawl, "I am a Luddite."

Actually that kind of claim is not as rare in the last years of the century as one might think. Fritjof Capra, who is a physicist by training, has said it. Katharine Temple of the Catholic Worker movement has said it, calling on her comrades to "find even more ways to be latter-day Luddites." Thomas Pynchon, the novelist whose pervading paranoia applies also to the technological realm, has said it, adding that he takes comfort "however minimal and cold" from Byron's lines after the Loughborough raid, "Down with all kings but King Ludd!" And even Joseph Weisenbaum, a professor at the Massachusetts Institute of Technology, has said it, thus:

> I think we need a period of detoxification with respect to our science and technology. They have become toxic to our spirit. We need a moratorium on progress. If such thoughts are Luddite, then I am a Luddite too.

And who knows how many there may be, troubled by the onrush of arcane technologies and esoteric systems, bewildered by procedures unknown but a decade before, threatened by machines that make them exposed or servile or useless, or worried by a world growing every day more anxious, unstable, and befouled, who have said, perhaps only to themselves, "I am a Luddite."

The neo-Luddite spectrum, then, is surprisingly broad and far more multifarious and interesting than one might have been led to think. Not yet an ordered movement, perhaps, but it contains multitudes of those who have in common an awakening from the technophilic dream and resistance to one aspect or other of the industrial monoculture, and that is a sociological fact of consider-

able importance. It also seems capable of developing along more self-conscious lines in the years ahead, particularly as the kinds of tenuous links now being made among previously separate groups grow stronger and as the sorts of issues once regarded as distinct—biotechnology and free trade, clear-cutting and tribal extinction—are increasingly seen as parts of the same rough beast.

It is impossible to put a figure on the number of people who could potentially be drawn into such a movement. The only attempt I know of was made in 1992 by a Russian scholar, Dr. Felix Rizvanov of the Russian Academy of Sciences, who estimated that there were as many as "approximately 50 to 100 million people in the USA, Russia, Europe and worldwide, who have rejected the scientific, technocratic Cartesian approach with its 'laissez-faire' economy." Whether that figure has any validity, and how many of those who have made that rejection would see themselves as purposeful neo-Luddites, it is not possible to say. But even from a survey as limited as the one I have attempted here, it is not unreasonable to think that the audience for a neo-Luddite message is wide and must be growing daily—or even that a resuscitation and new appreciation of the original Luddites might provide exactly the kind of instructive parallel from which such an audience might learn how to become rebels against the future they face, and find a world to gain.

Lessons from the Luddites

IT MAY BE that even those who do remember the past are condemned to repeat it, such is the regularity of the human condition, but at least those who learn from it may fashion the weapons with which to triumph the second time around. Armed with an understanding of the past, perhaps that can allow them to be rebels against the future.

Much there is to be learned from the experience of the Luddites, as distant and as different as their times are from ours. Just as the second Industrial Revolution itself has its roots quite specifically in the first—the machines change, but the machine*ness* does not—so those today who are inspired in some measure to resist or even reverse the tide of industrialism might best find their analogs, if not their models, in those original Luddites.

As I see it, these are the sorts of lessons one might, with the focused lenses of history, take from the Luddite past.

1. Technologies are never neutral, and some are hurtful.

It was not all machinery that the Luddites opposed, but "all Machinery hurtful to Commonality," as that March 1812 letter stated it, machinery to which their commonality did not give

approval, over which it had no control, and the use of which was detrimental to its interests, considered either as a body of workers or a body of families and neighbors and citizens. It was machinery, in other words, that was produced with only economic consequences in mind, and those of benefit to only a few, while the myriad social and environmental and cultural ones were deemed irrelevant.

For the fact of the matter is that, contrary to the technophilic propaganda, technology is not neutral, composed of tools that can be used for good or evil depending on the user. As we have seen, it comes with an inevitable logic, bearing the purposes and the values of the economic system that spawns it, and obeying an imperative that works that logic to its end, quite heedlessly. What was true of the technology of industrialism at the beginning, when the apologist Andrew Ure praised a new machine that replaced high-paid workmen—"This invention confirms the great doctrine already propounded, that when capital enlists science in her service, the refractory hand of labour will always be taught docility"—is as true today, when a reporter for *Automation* could praise a computer system as "significant" because it assures that "decision-making" is "removed from the operator [and] gives maximum control of the machine to management." These are not accidental, ancillary attributes of the machines that are chosen; they are intrinsic and ineluctable.

Tools come with a prior history built in, expressing the values of a particular culture. A conquering, violent culture—of which Western civilization is a prime example, with the United States at its extreme—is bound to produce conquering, violent tools. When U.S. industrialism turned to agriculture after World War II, for example, it went at it with all that it had just learned on the battlefield, using tractors modeled on wartime tanks to cut up vast fields, crop dusters modeled on wartime planes to spray poisons, and pesticides and herbicides developed from wartime chemical weapons and defoliants to destroy unwanted species. It was a

war on the land, sweeping and sophisticated as modern mechanization can be, capable of depleting topsoil at the rate of 3 billion tons a year and water at the rate of 10 billion gallons a year, as we have seen demonstrated ever since. It could be no other way: if a nation like this beats its swords into plowshares they will still be violent and deadly tools.

The business of cropping wool cloth with huge hand-held scissors was an arduous and tiring one, which the shearing frame could have done almost as well with much less effort and time, and the croppers might have welcomed such a disburdening tool if it had had no history built in. But they knew, and became Luddites because they knew, what they would have to give up if they were to accept such a technology: the camaraderie of the cropping shop, with its loose hours and ale breaks and regular conversation and pride of workmanship, traded for the servility of the factory, with its discipline and hierarchy and control and skillessness, and beyond that the rule of laissez-faire, dog-eat-dog, buyer-beware, cash-on-the-line. The shearing frame was so obviously not neutral—it was machinery hurtful.

It does not seem hard in a modern context similarly to determine when machinery is hurtful or to define a commonality whose members might have something to say about a technology's introduction or use. Wendell Berry, the Kentucky essayist, has produced a list of criteria that would serve well as a guide: a new tool, he says, should be cheaper, smaller, and better than the one it replaces, use less energy (and that energy renewable), be repairable, come from a small, local shop, and "should not replace or disrupt anything good that already exists, and this includes family and community relationships." To which need be added only two other crucial standards: that those "family and community relationships" embrace all the other species, plants and animals alike, and the living ecosystems on which they depend, and that they be considered, as the Irokwa have expressed it, with the interests of the next seven generations in mind.

2. Industrialism is always a cataclysmic process, destroying the past, roiling the present, making the future uncertain.

It is in the nature of the industrial ethos to value growth and production, speed and novelty, power and manipulation, all of which are bound to cause continuing, rapid, and disruptive changes at all levels of society, and with some regularity, whatever benefits they may bring to a few. And because its criteria are essentially economic rather than, say, social or civic, those changes come about without much regard for any but purely materialist consequences and primarily for the aggrandizement of those few.

Only three decades into the Industrial Revolution the Luddites already had a good sense of the magnitude and severity of the changes it was bringing, though they could not have imagined where it was ultimately heading. The British scholar Adrian Randall has said:

> Directly and indirectly the process of change affected and impinged upon whole communities. . . . Family economies were disrupted. And over all hung the threat of wholesale restructuring. . . . [The] opponents of change might not have realised that it was an "Industrial Revolution" they were experiencing but they recognised that the ways and the values of the past were about to be overturned [with] deep and profound consequences.

We can see something of the same process at work today in those societies where industrialism has more recently been introduced, particularly in its Western-capitalist form, from Eastern Europe to southern Africa, from Mexico to China. The shock waves of change shoot through stable communities and settled regions, disrupting families, clans, tribes, traditional relationships and behaviors, often setting tribe against tribe, religion against religion, race against race, in ways and with intensities never known before, often dragging societies into successive dictatorships if not perpetual civil war.

Whatever material benefits industrialism may introduce, the familiar evils—incoherent metropolises, spreading slums, crime and prostitution, inflation, corruption, pollution, cancer and heart disease, stress, anomie, alcoholism—almost always follow. And the consequences may be quite profound indeed as the industrial ethos supplants the customs and habits of the past. Helena Norberg-Hodge tells a story of the effect of the transistor radio—the apparently innocent little transistor radio—on the traditional Ladakhi society of northwestern India, where only a short time after its introduction people no longer sat around the fields or fires singing communal songs because they could get the canned stuff from professionals in the capital.

Nor is it only in newly industrialized societies that the tumultuous effects of an ethos of greed and growth are felt. What economists call "structural change" occurs regularly in developed nations as well, often creating more social disruption than individuals can absorb or families and neighborhoods and towns and whole industries can defend against, and during times of rapid technological growth the result is almost certain to be disastrous for large sections of the population, no matter what public protections may exist. And when those protections are meager or ineffective—as with health insurance in the United States, say—structural change will have widespread and onerous costs.

3. "Only a people serving an apprenticeship to nature can be trusted with machines."

This wise maxim of Herbert Read's is what Wordsworth and the other Romantic poets of the Luddite era expressed in their own way as they saw the Satanic mills and Stygian forges both imprisoning and impoverishing textile families and usurping and befouling natural landscapes—"such outrage done to nature as compels the indignant power . . . to avenge her violated rights." Mercantile capitalism showed scant regard for nature and

perceived the earth's treasures as resource and bounty, but until the 19th century it had not developed many technologies capable of wholesale destruction or an unreflective ethic committed to development and progress at all costs. With the Industrial Revolution there was not even a pretense that British society was paying attention, much less serving an apprenticeship, to nature, nor was there any concern at all that its products and processes should somehow enhance biological needs or preserve organic communities.

What happens when an economy is not embedded in a due regard for the natural world, understanding and coping with the full range of its consequences to species and their ecosystems, is not only that it wreaks its harm throughout the biosphere in indiscriminate and ultimately unsustainable ways, though that is bad enough. It also loses its sense of the human as a species and the individual as an animal, needing certain basic physical elements for successful survival, including land and air, decent food and shelter, intact communities and nurturing families, without which it will perish as miserably as a fish out of water, a wolf in a trap. An economy without any kind of ecological grounding will be as disregardful of the human members as of the nonhuman, and its social as well as economic forms—factories, tenements, cities, hierarchies—will reflect that.

Since technology is, by its very essence, artificial—that is to say, not natural, a human construct not otherwise found in nature, where there is no technology—it tends to distance humans from their environment and set them in opposition to it, and the larger and more powerful it becomes the greater is that distance and more effective that opposition: "The artificial world," says Jaques Ellul, the French philosopher, is "radically different from the natural world," with "different imperatives, different directives, and different laws" such that "it destroys, eliminates, or subordinates the natural world." At a certain point, one that we have reached in the 20th century, technology can completely overwhelm so many other elements of that world as

to threaten its continued existence, and unless the technosphere re-establishes some connectedness to the biosphere it seems likely to carry out that threat.

4. The nation-state, synergistically intertwined with industrialism, will always come to its aid and defense, making revolt futile and reform ineffectual.

There is no sign of hurt or astonishment in any of the Luddite letters written in reaction to the government's decision to defend the new industrialism with some 14,000 troops—the tone is repeatedly one of defiance, of the "Above 40,000 Heroes are ready to break out" sort—but in fact it must have come as a surprising and frightening blow. Never before had the British government resorted to such a measure—so stark and clumsy and brutal, and accompanied by systems of spies and informers, zealous magistrates, illegal arrests, and rigged trials—to control its own populace. That response was a statement, all the more emphatic for being apparently unexpected, of the real meaning of laissez-faire: force would be used by the state to ensure that manufacturers would be free to do what they wished, especially with labor. By the time the Luddites were hanging "comfortably" on their two bars at Yorkshire castle, the power of the new industrialism was patent.

Since then, of course, the industrial regime has only gotten stronger, proving itself the most efficient and potent system for material aggrandizement the world has ever known, and all the while it has had the power of the dominant nation-states behind it, extending it to every corner of the earth and defending it once there. It doesn't matter that the states have quarreled and contended for these corners, or that in recent decades native states have wrested nominal political control from colonizing ones, for the industrial regime hardly cares which cadres run the state as long as they understand the kind of duties expected of them. It is

remarkably protean in that way, for it can accommodate itself to almost any national system—Marxist Russia, capitalist Japan, China under a vicious dictator, Singapore under a benevolent one, messy and riven India, tidy and cohesive Norway, Jewish Israel, Moslem Egypt—and in return asks only that its priorities dominate, its markets rule, its values penetrate, and its interests be defended, with 14,000 troops if necessary, or even an entire Desert Storm.

Some among the Luddites might have entertained a dream that the British government could be overthrown—"shake off the hateful Yoke of a Silly Old Man, and his Son more silly and their Rogueish Ministers"—but it didn't take long to show the hollowness of that. Since then not one fully industrialized nation in the world has had a successful rebellion against it, which says something telling about the union of industrialism and the nation-state. In fact, the only places where rebellion has succeeded in the last two centuries have been where a version of a modern nation-state has emerged to pave the way for the introduction of industrialism, whether in the authoritarian (Russia, Cuba, etc.) or the nationalistic (India, Kenya, etc.) mold.

Some among the Luddites also entertained a dream that the British government could be reformed, either through new laws that would empower workers against their masters or by a broadening of Parliamentary representation. Immense effort was spent on this throughout the whole Luddite period and for decades afterward, absorbing the energy of tens of thousands of workers and siphoning off tens of thousands of pounds they could ill afford, but never once were the power alignments of British society significantly altered, never did the British government accede to any but the most meager demands. There is perhaps no figure of the Luddite era more pathetic than that of Gravener Henson after his long and arduous and quite costly work in organizing Nottingham stockingers, getting Parliament to consider a bill preventing "Frauds and Abuses" in the knitting trades, only to see his bill become so distorted in the Commons, as he said, that

it ended up allowing manufacturers to "cheat, rob, [illegible] as never before—and then finding that even that bill was rejected by the Lords.

5. But resistance to the industrial system, based on some grasp of moral principles and rooted in some sense of moral revulsion, is not only possible but necessary.

Probably no images emerge more clearly from the story of the Luddites than those that capture their boldness and bravery—the cropper at Cartwright's mill leaping up to shoot through the window in anger because a bullet had just been fired through his cap, the two sisters setting fire to the sofa and curtains in Emmanual Burton's mansion—and their willingness at considerable personal cost to express their opposition by hatchet, pike, gun, letter, march, or any other handy means. Yes, it is true that in a general sense the Luddites were not successful either in the short-run aim of halting the detestable machinery or the long-run task of stopping the Industrial Revolution and its multiple miseries; but that hardly matters in the retrospect of history, for what they are remembered for is that they *resisted,* not that they won. Some nowadays, honored with the haughtiness of hindsight, may call it foolish resistance ("blind" and "senseless" are the usual adjectives), but it was dramatic, forceful, honorable, and authentic enough to have put the Luddites' issues forever on the record and made the Luddites' name as indelibly a part of the language as the Puritans'.

What remains, then, after so may of the details fade, is the sense of Luddism as a moral challenge, "a sort of moral earthquake," as Charlotte Brontë saw it—the acting out of a genuinely felt perception of right and wrong that went down deep in the English soul. Such a challenge is mounted against large enemies and powerful forces not because there is any certainty of triumph but because somewhere in the blood, in the place inside where pain and fear and anger intersect, one is finally moved to refusal and defiance: "No more." "There is a time when the operation of the

machine becomes so odious, makes you so sick at heart, that you can't take part," is the way that Mario Savio put it before another movement in 1964. "And you've got to put your bodies upon the levers, upon all the apparatus, and you've got to make it stop."

But although violence as a tactic—bodies on the levers—can be an extremely effective tactic for a while, as the Luddites discovered, it can also be extremely limited and no longer of much use at the point when it calls down the potent wrath of authority and turns away the allegiance of neighbors. Moreover, it is difficult to maintain such a tactic in a high-moral context, to argue for very long that the low means of destruction are justified by the high ends of principle, and when that context is shattered, when the disjunction between ends and means becomes too great within the ranks and without, then violence loses its utility except for the crudest purposes.

Besides, the ways of resisting the industrial monoculture can be as myriad as the machines against which they are aimed and as varied as the individuals carrying them out, as the many neo-Luddite manifestations around the world make clear. The "Great Refusal," in the words of Michel Foucault, is made up of "a plurality of resistances, each of them a special case: resistances that are possible, necessary, improbable, others that are spontaneous, savage, solitary, concerted, rampant, or violent." Lewis Mumford, at the end of his lengthy analysis of "the myth of the machine" a generation ago, argued that indeed anyone could "play a part in extricating himself from the power system" by "quiet acts of mental and physical withdrawal," and he thought he saw such resistance "in a hundred different places":

> Though no immediate and complete escape from the ongoing power system is possible, least of all through mass violence, the changes that will restore autonomy and initiative to the human person all lie within the province of each individual soul, once it is roused. Nothing could be more damaging to the myth of the machine, and to the dehumanized social order it has brought into

existence, than a steady withdrawal of interest, a slowing down of tempo, a stoppage of senseless routines and mindless acts.

In the decades since, the power system has of course gone on to increase its grip on the society as a whole, but in fact some degree of withdrawal and detachment has also taken place, not alone among neo-Luddites, and there is a substantial "counterculture" of those who have taken to living simply, working in community, going back to the land, developing alternative technologies, dropping out, or in general trying to create a life that does not do violence to their ethical principles.

The most successful and evident models for withdrawal today, however, are not individual but collective, most notably, at least in the United States, the Old Order Amish communities from Pennsylvania to Iowa and the traditional Indian communities found on many reservations right across the country.

The Amish long ago worked out a way to exist within the industrial monoculture, deciding that no technologies that tied them to the outside world—combustion engines, radio and television, electric power, and telephones—would intrude into their lives and make their communities beholden to institutions that had no regard for the principle on which they ordered existence: "the harmony of God, nature, family, and community." For more than three centuries now they have withdrawn to islands mostly impervious to the industrial culture, and very successfully, too, as their lush fields, busy villages, neat farmsteads, fertile groves and gardens, and general lack of crime, poverty, anomie, and alienation attest.

In Indian country, too, where (despite the casino lure) the traditional customs and lifeways have remained more or less intact for centuries, a majority have always chosen to turn their backs on the industrial world and most of its attendant technologies, and they have been joined by a younger generation reasserting and in some cases revivifying those ancient tribal cultures. There could hardly be two more antithetical systems—the Indian is,

among other things, stable, communal, spiritual, participatory, oral, slow, cooperative, decentralized, animistic, and biocentric—but the fact that such tribal societies have survived for so many eons, not just in North America but on every other continent as well, suggests that there is a cohesion and strength to them that is certainly more durable and likely more harmonious than anything industrialism has so far achieved.

It is not incidental that both Amish and Indian communities are morally based, guided by spiritual values that place primary emphasis on living in harmony with the earth and sustaining small-scale communities. That both should then be so careful and restrictive in their use of technology, explicitly refusing to adopt certain machines whose qualities they can ably judge, says not only that there is an ethical decision to be made about technologies but that some of them can be seen to fail this test. As the Irokwa Confederacy put it in their statement to the United Nations in 1977, "We must all consciously and continually challenge every model, every program, and every process that the West tries to force upon us." Rejecting always the "machinery hurtful to commonality."

6. Politically, resistance to industrialism must force not only "the machine question" but the viability of industrial society into public consciousness and debate.

If in the long run the primary success of the Luddite revolt was that it put what was called "the machine question" before the British public through the first half of the 19th century—and then by reputation kept it alive right into the 20th—it could also be said that its failure was that it did not spark a true debate on that issue or even put forth the terms in which such a debate might be waged. That was a failure for which the Luddites of course cannot be blamed, since it was never part of their perceived mission to make their grievance a matter of debate and

indeed they chose machine breaking exactly to push the issue beyond debate. But because of that failure, and the inability of subsequent critics of technology to penetrate the complacency of its beneficiaries and their chosen theorists or successfully call its values into question, the principles and goals of industrialism, to say nothing of the machines that embody them, have pretty much gone unchallenged in the public arena. Industrial civilization is today the water we swim in, and we seem almost as incapable of imagining what an alternative might look like, or even realizing that an alternative could exist, as fish in the ocean.

The political task of resistance today, then—beyond the "quiet acts" of personal withdrawal Mumford urges—is to try to make the culture of industrialism and its assumptions less invisible and to put the issue of its technology on the political agenda, in industrial societies as well as their imitators. In the words of Neil Postman, a professor of communications at New York University and author of *Technopoly*, "it is necessary for a great debate" to take place in industrial society between "technology and everybody else" around all the issues of the "uncontrolled growth of technology" in recent decades. This means laying out as clearly and fully as possible the costs and consequences of our technologies, in the near term and long, so that even those overwhelmed by the ease/comfort/speed/power of high-tech gadgetry (what Mumford called technical "bribery") are forced to understand at what price it all comes and who is paying for it. What purpose does this machine serve? What problem has become so great that it needs this solution? Is this invention nothing but, as Thoreau put it, an improved means to an unimproved end? It also means forcing some awareness of who the principle beneficiaries of the new technology are—they tend to be the large, bureaucratic, complex, and secretive organizations of the industrial world—and trying to make public all the undemocratic ways they make the technological choices that so affect all the rest of us. Who are the winners, who the losers? Will this invention

concentrate or disperse power, encourage or discourage self-worth? Can society at large afford it? Can the biosphere?

Ultimately this "great debate" of course has to open out into wider questions about industrial society itself, its values and purposes, its sustainability. It is no surprise that the Luddites were unable to accomplish this in the face of an immensely self-satisfied laissez-faire plutocracy whose access to means of forcing debates and framing issues was considerably greater than theirs. Today, though, that task ought not to be so difficult—in spite of the continued opposition of a plutocracy grown only more powerful and complacent—particularly because after two centuries it is now possible to see the nature of industrial civilization and its imperiling direction so much more clearly.

Certain home-truths are beginning to be understood, at least in most industrial societies, by increasing numbers of people: some of the fish at least not only seem to be seeing the water but realizing it is polluted. Industrialism, built upon machines designed to exploit and produce for human betterment alone, is on a collision course with the biosphere. Industrial societies, which have shown themselves capable of creating material abundance for a few and material improvement for many, are nonetheless shot through with inequality, injustice, instability, and incivility, deficiencies that seem to increase rather than decrease with technical advancement. Industrialism does not stand superior, on any level other than physical comfort and power and a problematic longevity of life, to many other societies in the long range of the human experiment, particularly those, morally based and earth-regarding, that did serve the kind of "apprenticeship to nature" that Herbert Read saw as the proper precondition to technology.

Say what you will about such tribal societies, the record shows that they were (and in some places still are) units of great cohesion and sodality, of harmony and regularity, devoid for the most part of crime or addiction or anomie or poverty or suicide, with comparatively few needs and those satisfied with a minimum of drudgery, putting in on average maybe four hours a day per per-

son on tasks of hunting and gathering and cultivating, the rest of the time devoted to song and dance and ritual and sex and eating and stories and games. No, individuals did not necessarily live as long—one estimate has paleolithic longevity at 32.5, exactly the same as in the United States in 1900—nor did they produce so many progeny, but that is because, apprenticed to nature, they consciously restricted human numbers and accepted limited human duration so that other species around them could thrive, for the benefit of all. No, they did not have the power of five hundred servants at the flick of a switch or turn of a key, but then they did not have atomic bombs and death camps, toxic wastes, traffic jams, strip mining, organized crime, psychosurgery, advertising, unemployment, or genocide.

To propose, in the midst of the "great debate," that such societies are exemplary, instructive if not imitable, is not to make a romanticized "search for the primitive." It is rather to acknowledge that the tribal mode of existence, precisely because it is nature-based, is consonant with the true, underlying needs of the human creature, and that we denigrate that mode and deny those needs to our loss and disfigurement. It is to suggest that certain valuable things have been left behind as we have sped headlong down the tracks of industrial progress and that it behooves us, in a public and spirited way, to wonder about what we have gained from it all and reflect upon what we have lost. And it is, finally, to assert that some sort of ecological society, rooted in that ancient animistic, autochthonous tradition, must be put forth as the necessary, achievable goal for human survival and harmony on earth.

7. Philosophically, resistance to industrialism must be embedded in an analysis—an ideology, perhaps—that is morally informed, carefully articulated, and widely shared.

One of the failures of Luddism (if at first perhaps one of its strengths) was its formlessness, its unintentionality, its indistinctness about goals, desires, possibilities. Movements acting out of

rage and outrage are often that way, of course, and for a while there is power and momentum in those alone. For durability, however, they are not enough, they do not sustain a commitment that lasts through the adversities of repression and trials, they do not forge a solidarity that prevents the infiltration of spies and stooges, they do not engender strategies and tactics that adapt to shifting conditions and adversaries, and they do not develop analyses that make clear the nature of the enemy and the alternatives to put in its place.

Now it would be difficult to think that neo-Luddite resistance, whatever form it takes, would be able to overcome all those difficulties, particularly on a national or international scale: commitment and solidarity are mostly products of face-to-face, day-to-day interactions, unities of purpose that come from unities of place. But if it is to be anything more than sporadic and martyristic, resistance could learn from the Luddite experience at least how important it is to work out some common analysis that is morally clear about the problematic present and the desirable future, and the common strategies that stem from it.

All the elements of such an analysis, it seems to me, are in existence, scattered and still needing refinement, perhaps, but there: in Mumford and Schumacher and Wendell Berry and Jerry Mander and the Chellis Glendinning manifesto; in the writing of the Earth-Firsters and the bioregionalists and deep ecologists; in the lessons and models of the Amish and the Irokwa; in the wisdom of tribal elders and the legacy of tribal experience everywhere; in the work of the long line of dissenters-from-progress and naysayers-to-technology. I think we might even be able to identify some essentials of that analysis, such as:

Industrialism, the ethos encapsulating the values and technologies of Western civilization, is seriously endangering stable social and environmental existence on this planet, to which must be opposed the values and techniques of an organic ethos that

seeks to preserve the integrity, stability, and harmony of the biotic community, and the human community within it.

Anthropocentrism, and its expression in both humanism and monotheism, is the ruling principle of that civilization, to which must be opposed the principle of biocentrism and the spiritual identification of the human with all living species and systems.

Globalism, and its economic and military expression, is the guiding strategy of that civilization, to which must be opposed the strategy of localism, based upon the empowerment of the coherent bioregion and the small community.

Industrial capitalism, as an economy built upon the exploitation and degradation of the earth, is the productive and distributive enterprise of that civilization, to which must be opposed the practices of an ecological and sustainable economy built upon accommodation and commitment to the earth and following principles of conservation, stability, self-sufficiency, and cooperation.

A movement of resistance starting with just those principles as the sinews of its analysis would at least have a firm and uncompromising ground on which to stand and a clear and inspirational vision of where to go. If nothing else, it would be able to live up to the task that George Grant, the Canadian philosopher, has set this way: "The darkness which envelops the Western world because of its long dedication to the overcoming of chance"—by which he means the triumph of the scientific mind and its industrial constructs—"is just a fact. . . . The job of thought in our time is to bring into the light that darkness as darkness." And at its best, it might bring into the light the dawn that is the alternative.

One last lesson of a slightly different kind stems not from the experiences of the Luddites, though they might have had such inklings in their more religious moments, but from the subsequent course of the industrialism of which they were the first victims.

8. If the edifice of industrial civilization does not eventually crumble as a result of a determined resistance within its very walls, it seems certain to crumble of its own accumulated excesses and instabilities within not more than a few decades, perhaps sooner, after which there may be space for alternative societies to arise.

The two chief strains pulling this edifice apart, environmental overload and social dislocation, are both the necessary and inescapable results of an industrial civilization. In some sense, to be sure, they are the results of *any* civilization: the record of the last five thousand years of history clearly suggests that every single preceding civilization has perished, no matter where or how long it has been able to flourish, as a result of its sustained assault on its environment, usually ending in soil loss, flooding, and starvation, and a successive distension of all social strata, usually ending in rebellion, warfare, and dissolution. Civilizations, and the empires that give them shape, may achieve much of use and merit—or so the subsequent civilizations' historians would have us believe—but they seem unable to appreciate scale or limits, and in their growth and turgidity cannot maintain balance and continuity within or without. Industrial civilization is different only in that it is now much larger and more powerful than any known before, by geometric differences in all dimensions, and its collapse will be far more extensive and thoroughgoing, far more calamitous.

It is possible that such a collapse will be attended by environmental and social dislocations so severe that they will threaten the continuation of life, at least human life, on the surface of the planet, and the question then would be whether sufficient numbers survive and the planet is sufficiently hospitable for scattered human communities to emerge from among the ashes. But it is also possible that it will come about more by decay and distension, the gradual erosion of nation-state arrangements made obsolete and unworkable, the disintegration of corporate behemoths unable to comprehend and respond, and thus with the slow res-

direction and re-empowerment of small bioregions and coherent communities having control over their own political and economic destinies. In either case, it will be necessary for the survivors to have some body of lore, and some vision of human regeneration, that instructs them in how thereafter to live in harmony with nature and how and why to fashion their technologies with the restraints and obligations of nature intertwined, seeking not to conquer and dominate and control the species and systems of the natural world—for the failure of industrialism will have taught the folly of that—but rather to understand and obey and love and incorporate nature into their souls as well as their tools.

It is now the task of the neo-Luddites, armed with the past, to prepare, to preserve, and to provide that body of lore, that inspiration, for such future generations as may be.

LUDDITE REVOLT!